

**ABSTRACT OF THE DISCLOSURE**

A radiation window device to transmit radiation as part of an x-ray source or detector includes a support to be subject to a substantial vacuum, and an opening configured to transmit radiation. A film is mounted directly on the support across the opening, and has a material and a thickness selected to transmit soft x-rays. An adhesive directly adheres the film to the support. A coating covers exposed portions of at least one of the evacuated or ambient sides of the film, and covers a portion of the support surrounding the film. The support, film and adhesive form a vacuum tight assembly capable of maintaining the substantial vacuum when one side is subject to the substantial vacuum. In addition, the vacuum tight assembly can withstand a temperature of greater than approximately 250 degrees Celsius.

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